THE CITY OF SAN DIEGO

MANAGER'S REPORT

DATE ISSUED: March 18, 2002 REPORT NO. 02-059

ATTENTION: Public Safety and Neighborhood Services Committee
Agenda of March 20, 2002

SUBJECT: Street Sweeping Program

REFERENCE: Manager's Report No. 02-029 dated February 1, 2002

SUMMARY

THIS IS AN INFORMATION ITEM ONLY. NO ACTION IS REQUIRED ON THE PART OF THE COMMITTEE OR THE CITY COUNCIL.

BACKGROUND

On February 6, 2002, Manager's Report No. 02-029 was presented to the Public Safety and Neighborhood Services Committee. The purpose of the report was to provide a general overview of the City's Street Sweeping Program. After presenting this report, the Committee directed staff to return to the Committee with the following information:

1. Include a third performance measure for street sweeping that addresses the amount and type of pollutants that are collected by the sweepers.

2. An analysis of the causes of missed routes, by percentage.

3. A report on the sweeping equipment options available, including dry vacuum vs. wet sweeping.

4. The history of funds provided to the City for bikeways by SANDAG.

DISCUSSION

5. Performance Measure:
During the current fiscal year, the street sweepers have collected an average of approximately 82 cubic yards of debris daily. In order to determine the makeup of the debris, County of San Diego, "Department of Environmental Health Site Assessment and Mitigation Manual" guidelines require that for every 100 cubic yards of debris, four samples shall be tested. If the County of San Diego guidelines were followed, the testing would cost approximately $280.00 per test, for a total estimated cost of $60,000 per year. In order to minimize cost, random testing at a frequency lower than the County of San Diego guidelines can be performed to approximate the types of pollutants collected by the street sweepers. Reliability of the information collected will be determined by the number of tests actually taken.

6. Analysis of Missed Routes:
An analysis was completed to identify the causes for missed routes by percentage. The information reported is for a one year period beginning on February 1, 2001 and ending January 31, 2002. The following is an explanation of the information shown in the attached report.

Currently, there are 171 street sweeping routes throughout the City; 130 are residential routes and 41 are commercial routes. The most common reason for missed routes is insufficient staff (37%), followed by equipment breakdown (18%), heavy debris pick up (15%), scheduled holidays (15%), and rain (15%). Insufficient staff is attributed to illnesses, injuries and vacations. Heavy debris pickup reflects streets within the route that require multiple passes to properly clean the street. Multiple passes on a street increases the time needed to sweep the route and therefore the entire route is not swept. Equipment breakdown is attributed to the increasing mechanical failures the aging sweepers are experiencing.

Special requests for sweeping from other city departments and the community are handled on a case-by-case basis. In the event of a water main break, street sweepers are utilized to clean the streets initially impacted by the break. Street sweeping is also regularly provided to clean up the debris after vehicle accidents, spills, illegal dumping, center islands and bikeways.

During the period of this analysis, sweeping was provided for the following events: Gay Pride Parade, Saint Patrick's Day Parade, Martin Luther King Parade, Pacific Beach Block Party, Little Italy Street Fair, and several other community and neighborhood

events. In a few cases, the events listed above paid for the street sweeping services. However, the additional sweeping causes some routes to be missed or rescheduled. It usually requires city staff to work overtime and increases wear and tear on the street sweepers causing additional down time. An estimated 400 special requests were completed.

7. Street Sweeper Equipment Options:
During the month of January 2002, Street Division working with General Services Department's Equipment Division, began street sweeper demonstrations. A notice was sent to all interested vendors providing them with an opportunity to demonstrate their sweepers. The following table shows the vendors, types and cost of the sweepers demonstrated to date. Vacuum sweepers will be demonstrated during the month of April.

Vendor	Mechanical	Cost	Regenerative	Cost
GCS Western			Tymco 435	$ 89,000
GCS Western			Tymco 600	117,000
Nixon Elgin Equipment	Johnston 4000	$135,000	Johnston Cyclone	153,000
Tennant MFG	Centurion / Mechanical Vacuum	160,000		
Haaker Equipment	Broom Bear	140,000	Crosswind	120,000

The vendors participating in the recent demonstrations were required to provide the City with the equipment for one week. During this time, the vendors provided training, technical support and maintenance. Street Division staff utilized the equipment on typical sweeping routes and evaluated the sweepers in several areas; sweeping quality, drive ability, visibility, turning, noise, gutter broom operations, lubrication, water spray, and dumping. Equipment Division staff evaluated the sweepers based on simplicity of design, accessibility of parts and ease of maintenance.

The regenerative air system uses a controlled blast of air to dislodge debris from the surface of the street and then picks up the debris using a large 12 to 14 inches diameter suction hose. Only clean air is returned to the blower to start the regenerative air cycle again. This closed-loop system means no dirty air is exhausted into the environment to settle on the surface again. Large gutter brooms located on both sides of the sweeper assist this process by sweeping debris along the curb and gutter towards the suction hose for easier removal. The regenerative air system did not pick up the large and the heavy debris typically found on the route that the mechanical sweepers routinely pick up. This required additional passes on the street over and above what is currently needed. Light and small debris was collected easily and smoothly.

The mechanical sweeper uses hydraulic driven brooms and a conveyer-belt (elevator) system. Gutter brooms sweep debris to the middle of the machine and a large broom located at the rear of the machine sweeps the material to the elevator. The debris is then

carried up the elevator and into the hopper. Two spray nozzles over each gutter broom, one nozzle in the elevator and a full width front spray bar with four nozzles assist in minimizing air-born debris. The mechanical sweeper picked up large and heavy debris.

The assessment is that the mechanical sweepers are more capable of picking up the larger, heavier debris quickly and more efficiently than the regenerative sweepers. The complex design of the regenerative sweepers is expected to cost more to maintain and repair. A street swept with a mechanical sweeper was noticeably cleaner than using a regenerative sweeper.

8. SANDAG funding for bikeways:
Each year, SANDAG allocates funds under the Transportation Development Act and the TransNet local sales tax programs for the development of pedestrians and bicycle facilities. Government agencies in the region compete for these funds. In a typical year, the City of San Diego secures approximately $1,000,000 of these funds for the design and construction of bicycle facilities. In the past five years, the City has received approximately $7,000,000 in grants from SANDAG.

SANDAG has always considered the maintenance and upkeep of facilities funded with money under these two programs the responsibility of the agency receiving the funds. In the past, this requirement has only been stated verbally by SANDAG's representatives at the time funds were approved. However, some of these facilities have not been adequately maintained. This problem has been most severe in the City of San Diego since it is the largest agency in the region and has more of these facilities within its limits than any other agency. Therefore, SANDAG has recently added language to the program guidelines requiring agencies to maintain facilities funded by SANDAG.

CONCLUSION

The Street Sweeping Program continues to make every effort to keep the City of San Diego streets as clean as possible. As the City continues to grow in size and population, the expectation of the residents to have clean streets also continues to rise. The level of staffing and funding, double shifting the motor sweepers, and special requests for sweeping, contribute to the current level of service.

Respectfully submitted,

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LOVELAND/MXS